Land Use and Energy in California

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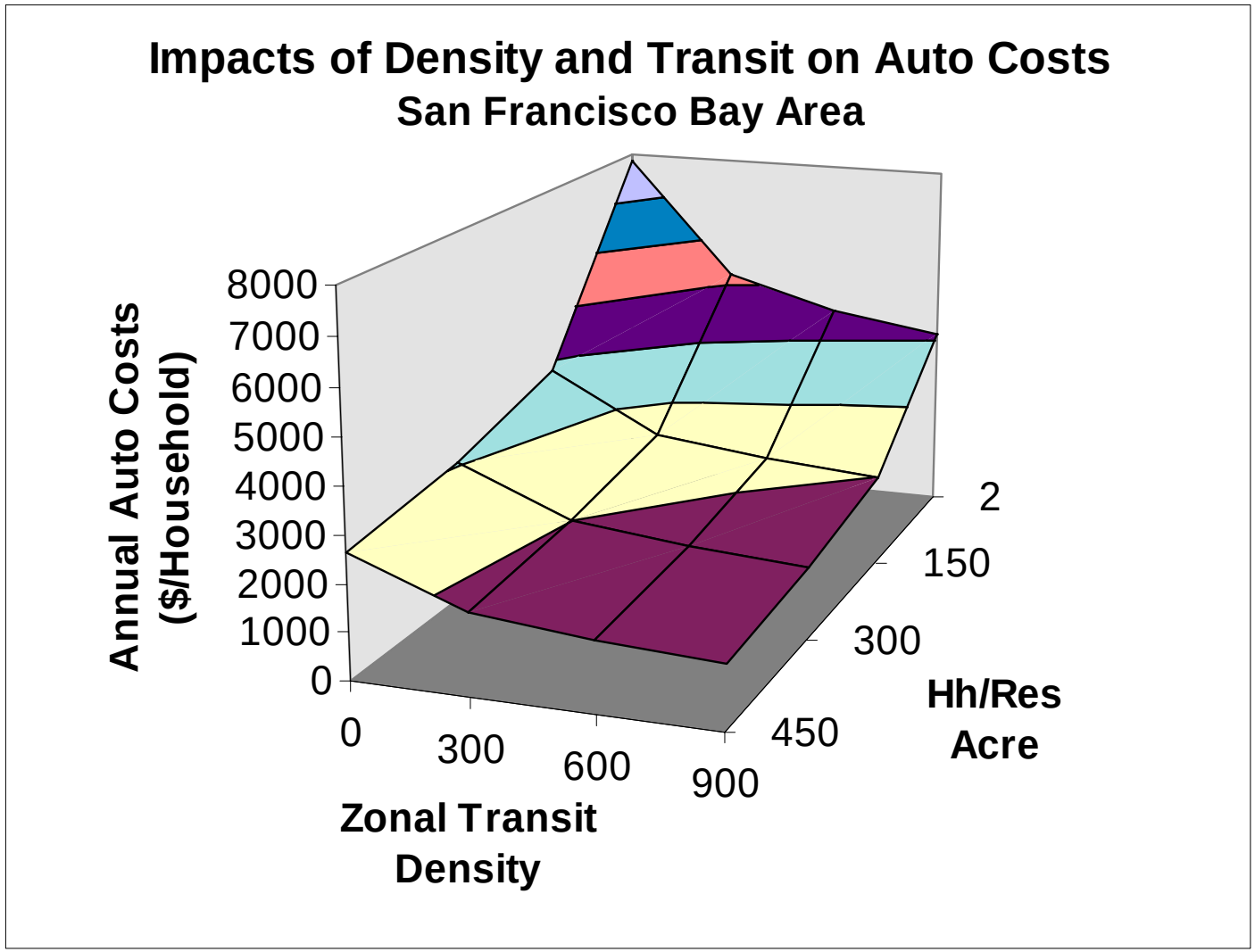
Land Use and Transportation Energy

- Transportation energy use accounts for over half of California's greenhouse gas emissions.
- Land use is a primary determinant of personal transportation energy demand.

The Efficiency Opportunity

- Smart Growth can reduce travel by 50% and more.
- Ten year's savings potential in California from ten years' new housing construction is:
  - 10 million tons of CO_2 emissions annually
  - $200 billion of present value savings
  - 60,000 barrels/day of oil saved
- These benefits increase with time.

Key Known Physical Attributes of Smart Growth



Sprawl Vs. Smart Growth

Smart Growth
More Choices For Our Families

Smart Growth America

Images of Smart Growth

Images of Smart Growth

Images of Dumb Growth

Images of Dumb Growth

Physical Realities and Policy Options

- We know what smart growth should look like and we know what dumb growth looks like, at least for homes.
  - We know the difference of land use and in terms of transportation infrastructure.
- The market appears to want more smart growth, based on property values.
  - Market barriers must be impeding smart growth.
- We do not know the impact of commercial and industrial land use on energy
  - In some cases, we don't even know the sign.

Physical Realities and Policy Options-II

- We can speculate that smart growth land use patterns reduce non-transportation energy significantly.
  - Smart growth reduces outdoor water use
  - Smart growth requires lower amounts of energy-intensive construction materials
- What is less understood is the policy changes necessary to get us there.

Transportation and Land Use Policy is Complicated

- Decisions are made by a complex combination of government regulation and market forces, and by government incentives and policies at the local, regional, state, and national level.
- While transportation infrastructure investments are made by definable government agencies, their decisions are influenced by a breathtaking variety of laws and political influences.

Transportation and Land Use Policy is Complicated--III

- Land use decisions are influenced by a wide range of regulations
  - Local governmental regulations
  - Private sector standards
  - Informal standards used by lenders or investors
- These regulatory influences are not well understood or even catalogued.

Opportunities for CEC Study

- How does commercial land use affect personal transportation energy use?
- How does land use—both residential and commercial—affect freight transportation energy?
- How does land use affect the use of water and energy-intensive materials?

Policy Questions

- What types of regulation affect land use?
  - Government regulation
  - Private sector regulation
  - Informal private sector regulation
- What are the barriers to markets for smart growth development and how can they be overcome?